

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Appl. No. : 10/775,886 Confirmation No. 1418
Applicant : N. MATSUNAMI et al
Filed : February 10, 2004
Title : STORAGE DEVICE
TC/AU : 2188
Examiner : K. Patel
Docket No. : H-1210
Customer No.: 24956

Commissioner of Patents
Mail Stop Appeal Briefs - Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

This appeal is taken from the final rejection of claims 32-41 and 44-51 set forth in the Final Office Action dated January 4, 2007. Appellants address the following items.

I. REAL PARTY IN INTEREST

The real party in interest of this application is the assignee of record, Hitachi, Ltd.

II. RELATED APPEALS AND INTERFERENCE

There are no related appeals or interferences that will directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

07/06/2007 MBELEFE1 00000012 10775886

01 FC:1402

500.00 0P

III. STATUS OF CLAIMS

Claim 32-41 and 44-51 are currently pending. Claims 1-31, 42, 43, 52 and 53 have been canceled. All of pending claims have been finally rejected. Accordingly, the final rejection of claims 32-41 and 44-51 is being appealed.

IV. STATUS OF AMENDMENTS

An amendment accompanies this Appeal Brief to correct a minor typographical errors in claims 37 and 46. This amendment has not yet been acted on by the Examiner. No other amendments have been filed subsequent to the final rejection.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention is directed to a method for migrating a file between a first system and a second system as recited in independent claim 39. The present invention is also directed to a system for storing a file as set forth in independent claim 41.

Regarding the method and system recited in independent claims 39 and 41, Fig. 1 of the present application illustrates a storage device 1 having a file access controller and storage controller (or disk array controller), which are referred to as NAS channel adaptors or CHNs (see Specification, page 7, line 15 to page 8, line 14). The CHNs are shown in more detail in Fig. 4, namely including a file access

control CPU 1101, a file access control memory 1104, a disk array control CPU 1108 and a disk array control memory 1109 (see Specification, page 11, lines 16-22). The file access control CPU 1101 is a processor for controlling file access. The file access control memory 1104 is connected to the file access control CPU 1101 and stores programs executed by the file access control CPU 1101 as well as control data (see Specification, page 11, lines 16-22). Storage device 1 also includes a plurality of magnetic disk devices 170 and 171.

Fig. 13 illustrates storage device 1 coupled to another storage device 1a, which has similar components as shown in Fig. 1 for storage device 1 (see Specification, page 36, lines 9-11). Therefore, storage device 1a includes a second file access controller, a second disk array controller and second magnetic devices as shown in Fig. 13.

The first storage device 1 receives an open request from a computer for storing a file in the first system, the open request including information of a policy, which is set by an application creating the file (see Specification, page 26, line 17 to page 27, line 6). The policy category is information that is set by the application that created the file and is designated by the application with regard to file storage conditions (see Specification, page 22, lines 16-18). The policy category information is included in the open request as static property information, since open processing is executed to store the file for the first time (see Specification, page 26, lines 20-23).

A file storage management section 1100433 creates a file storage management table 1100435 to correspond to a file handler assigned to a file named, "abc.doc". The file storage management section also creates a file property information management table 1100438 for the file, correlates it with the file storage management table and stores therein the static property information (which includes the policy category information set by the application that created the file) (see Specification, page 27, line 20 to page 28, line 10 and page 31, lines 11-15). The file storage management table 1100435 and file property information management table are then appropriately stored in the first storage device (see Specification, page 28, lines 8-10). Examples of tables 1100435 and 1100438 are illustrated in Figs. 10 and 11, respectively.

The file ("FILE00001" which is originally "abc.doc") is migrated from storage device 1 to storage device 2 according to information stored in the file property information management table 1100438 (see Specification, page 38, line 23 to page 43, line 3). Upon migration, the file storage management section 1100433 changes the link destination file name to the new file name (such as "STR1-FILE 00001") in the file storage management table 1100435 of the original file ("FILE00001")(see Fig. 12 and Specification, page 43 lines 6-13). Therefore, according to the present invention, it is possible to determine storage regions in which to store data by taking into consideration the type of application that generates and uses the data and to set a migration policy accordingly (see Specification, page 3, lines 16-21). The file property information management table 1100438 of the original file is left so that it

can be used in a further migration (see Specification, page 39, line 16 to page 40, line 4 and page 47, lines 8 – 11).

The description above pertains to both independent claim 39 and independent claim 41. Furthermore, independent claim 41 recites the management of first and second file systems by first and second file access controllers, respectively, as well as the management of information of the policy set for the file by the first file access controller. Figs. 4 and 5 as well as their corresponding description in the Specification set forth the details of such management by the first and second file access controllers (see Specification, page 11, line 15 to page 15, line 1).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 32-41 and 44-51 stand rejected under 35 U.S.C. §112, first paragraph.
2. Claims 32-35, 37, 39-41, 44-48 and 50 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Leung et al (U.S. Pub. No. 2004/0039891(U.S. Pub. No. 2003/0046270) (Leung et al, U.S. Pub. No. 2003/0046270, incorporated by Leung '891) and further in view of Devarakonda et al (U.S. Pub. No. 2003/0225801) and Noveck et al (U.S. Patent No. 6,757,695).
3. Claims 36, 38, 49 and 51 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Leung et al, Davarakonda et al and Novek et al

applied to claims 39 and 41, and further in view of Edsall et al (U.S. Pub. No. 2004/0139167).

VII. ARGUMENT

1. Rejection of claims 32-41 and 44-51 under 35 U.S.C. §112, first paragraph.

The Examiner contends that "the limitations 'the open request including information of a policy, which is set by an application creating the file' and 'the open request including information of a policy set for a file by an application creating file' are not described in the Specification" (see Office Action of January 4, 2007, page 3, item 9). The Examiner further contends in this portion of the Office Action that policies are set by the host and not by the application creating the file. Appellants respectfully disagree.

As clearly stated in the Specification on page 22, lines 16-18, "the policy category is information that is set by the user or the application that created the file, and is information that is designated by the user or the application with regard to file storage conditions" (underlining added). Furthermore, it is stated in the Specification that since open processing is executed to store a file for the first time, certain information is included in the file information category and the policy category as the static property information of the file property information along with the open request (see Specification, page 26, line 18 to page 27, line 1). Furthermore, the policy category includes information such as the application that generated the file, the

migration plan, etc. (see Specification, page 27, lines 1-6). Therefore, it is submitted that this rejection be withdrawn since the language objected to by the Examiner is clearly supported and enabled by the present application.

- 2. Rejection of claims 32-35, 37, 39-41, 44-48 and 50 under 35 U.S.C. §103(a) as being unpatentable over Leung et al (U.S. Pub. No. 2004/0039891)/ (U.S. Pub. No. 2003/0046270) (Leung et al, U.S. Pub. No. 2003/0046270, incorporated by Leung '891) and further in view of Devarakonda et al (U.S. Pub. No. 2003/0225801) and Noveck et al (U.S. Patent No. 6,757,695); and**
- 3. Rejection of claims 36, 38, 49 and 51 under 35 U.S.C. § 103 (a) as being unpatentable over Leung et al, Davarakonda et al and Noveck et al as applied to claims 39 and 41, and further in view of Edsall et al (U.S. Pub. No. 2004/0139167).**

The second (2) and third (3) grounds for rejection are argued together in this section for the sake of conciseness. As an initial matter, it is noted that U.S. Patent Application Publication. No. 2004/0039801 to Leung et al ("Leung et al '891") is not prior art. Leung et al' 891 has been removed as prior art by the filing of a verified translation of the foreign priority document of the present application. Therefore, the Examiner can only rely upon the parent application to Leung et al '891, namely U.S. Pub. No. 2003/0046270 to Leung et al ("Leung et al '270"). Leung et al '891 is

based upon a continuation-in-part application of the application corresponding to Leung et al '270. These two publications do not disclose identical subject matter.

Independent Claim 39 and Dependent Claims 34-35 and 36-38 and 40:

The Examiner correctly acknowledges that Leung et al '270 does not disclose that a policy is set by an application creating the file using an open request for storing the file. However, the Examiner maintains that Leung et al '270 discloses leaving information indicating a migration destination of a migrated file and refers to the stub or tag file that may be stored on the source storage unit in place of the migrated file. However, it is submitted that such disclosure is contained in Leung et al '891 and is not contained in Leung et al '270. Therefore, the Examiner also cannot rely upon Leung et al '270 for disclosing the leaving of information indicating a migration destination of the migrated file as alleged.

These deficiencies in Leung et al '270 are not overcome by resort to Devarakonda et al or Noveck et al. The Examiner alleges that Devarakonda et al disclose applying policy based on the application creating the file referring to paragraphs [0009], [0022] and [0027] of Devarakonda et al. However, these portions of Devarakonda et al fail to disclose or suggest that policy is set by an application creating the file. As stated in paragraph [0065] of Devarakonda et al, a graphical user interface GUI tool may be provided to allow system administrators to define policies, associate attributes and management functions with specific applications and storage. The GUI tool would allow the system administrator to define the

application policies to associate application containers and certain data characteristics with storage containers, to define the data policies to associate data containers and certain data characteristics with storage containers, and the storage policies to associate storage containers and certain data characteristics with storage resources.

Therefore, both Leung et al '270 and the publication to Devarakonda et al fail to disclose or suggest receiving an open request from the computer for storing a file in the first system, the open request including information of a policy which is set by an application creating the file. Furthermore, both of these references fail to disclose or suggest leaving information indicating a migration destination of the file and information indicting the application creating the file and setting the policy in the first system.

The deficiencies in the '270 publication to Leung et al and the publication to Devarakonda et al are not overcome by resort to Noveck et al or Edsall et al. Indeed, the Examiner merely relies upon Noveck et al for disclosing using a file access controller and creating logical units on a plurality of disks. Furthermore, the Examiner merely relies upon Edsall et al for disclosing NFS and CIFS protocol. Noveck et al and Edsall et al fail to disclose or suggest the above-mentioned features of the present invention that are neither disclosed nor suggested by Leung et al '270 or the publication to Devarakonda et al. As such, it is submitted that independent claim 39 and its dependent claims 35 and 36-38 and 40, patentably define the present invention over the cited art.

Dependent claim 32:

In addition to the arguments presented above regarding the patentability of claim 39, it is submitted that claim 32 is separately patentable as it further defines the present invention in that it specifically recites that the second system uses another file name that is different from a file name used in the first system and that this other file name is left in the first system. None of the cited references disclose this feature of the present invention.

Dependent Claim 33:

In addition to the arguments presented above regarding the patentability of claim 39, it is submitted that claim 33 is separately patentable as it further defines the present invention in that it specifically recites that the information indicating the migration destination of the file, the information indicating the application creating the file and setting the policy, and the other file name used in the second system are accessible by using the original file name. None of the cited references disclose this feature of the present invention.

Independent Claim 41 and Dependent claims 44, 47 and 48-51:

The arguments raised above with respect to Independent claim 39 are hereby incorporated by reference. Furthermore, independent claim 41 further recites the management of first and second file systems by first and second file access

controllers, respectively, as well as the management of information of the policy set for the file by the first file access controller. The policy referred to in claim 41 corresponds to policy set by an application creating the file, which is not disclosed or suggested by the cited references. Therefore, it follows that management of such policy by the first access controller is also not disclosed or suggested by any of the cited references.

Dependent Claim 45:

In addition to the arguments presented above regarding the patentability of claim 41, it is submitted that claim 45 is separately patentable as it further defines the present invention in that it specifically recites that in the second system, another file name, which is different from an original file name of the file used in the first system, is used to identify the migrated file, and that the another file name remains stored in the first system. None of the cited references disclose this feature of the present invention.

Dependent Claim 46:

In addition to the arguments presented above regarding the patentability of claim 41, it is submitted that claim 46 is separately patentable as it further defines the present invention in that it specifically recites that the information indicating the migration destination of the migrated file, the information indicating the application creating the file and setting the policy and the another file name are accessible by

using the original file name. None of the cited references disclose this feature of the present invention.

Conclusion

Leung et al '891 is not available as prior art. Leung et al '270 and the publication to Devarakonda et al fail to disclose or suggest the claimed features of the independent claims. These deficiencies are not overcome by resort to Noveck et al or Edsall et al. As such, it is submitted that all of the pending claims patentably define the present invention over the cited art.

XI. FEES

A Credit Card Payment Form is enclosed for the \$500.00 filing fee for this Brief in support of an appeal.

If any further fees are due in connection with the filing of this Appeal Brief, including any Extension of Time fees that are necessary, the Commissioner is hereby authorized to charge Deposit Account No. 50-1417.

Respectfully submitted,

MATTINGLY, STANGER & MALUR

By 

Shrinath Malur
Registration No. 34,663
(703) 684-1120

VIII. CLAIMS APPENDIX

1-31. (Canceled).

32. (Previously Presented) A method for migrating a file according to claim 39,
wherein in the second system, another file name, which is different from an
original file name of the file used in the first system, is used to identify the file, and
wherein the another file name used in the second system is further left in the
first system.

33. (Previously Presented) A method for migrating a file according to claim 32,
wherein the information indicating the migration destination of the file, the
information indicating the application creating the file and setting the policy, and the
another file name used in the second system are accessible by using the original file
name.

34. (Previously Presented) A method for migrating a file according to claim 33,
wherein after migrating the file, if the first file access controller receives a file
access request including the original file name, the first file access controller sends
the second file access controller another file access request including the another file
name used for the file in the second system.

35. (Previously Presented) A method for migrating a file according to claim 39,
wherein information indicating a size of the file, access permission to the file,
and creation date of the migrated file are further left in the first system.
36. (Previously Presented) A method for migrating a file according to claim 39,
wherein the first file access controller and the second file access controller are
configured to provide an access to a file according to Network File System or
Common Internet File System protocol.
37. (Previously Presented) A method for migrating a file according to claim 39,
wherein in the step of migrating the file is read from the first file system, a
write request to store the file in the second file system is transmitted to the second
system, and the second file access controller writes the file according to the write
request.
38. (Previously Presented) A method for migrating a file according to claim 37,
wherein the write request transmitted to the second system is according to Network
File System or Common Internet File System protocol.
39. (Previously Presented) A method for migrating a file between a first system and
a second system,

wherein the first system includes a first file access controller, a first storage controller, and a plurality of first magnetic disk devices, and the first file access controller receives a file access request from a computer and controls to access a file according to the file access request, and

wherein the second system includes a second file access controller, a second storage controller, and a plurality of second magnetic disk devices, and the second file access controller receives a file access request and controls to access a file according to the file access request,

the method comprising steps of:

at the first system, receiving an open request from the computer for storing a file in the first system, the open request including information of a policy, which is set by an application creating the file;

storing the file in the first system;

migrating the file from the first system to the second system according to the policy; and

leaving information indicating a migration destination of the file and information indicating the application creating the file and setting the policy in the first system.

40. (Previously Presented) A method for migrating a file according to claim 39,

wherein in the plurality of first magnetic disk devices, a first logical unit is configured,

wherein in the step of migrating, data of the file is migrated from the first logical unit to the second system, and

wherein in the step of leaving, the information indicating the migration destination of the file and the information indicating the application creating the file and setting the policy are left in the first logical unit, from which data of the file is migrated to the second system.

41. (Previously Presented) A system for storing a file comprising:

a first system including a first file access controller and a first storage system, wherein the first storage system has a plurality of first magnetic disk devices and a first storage controller coupled to the plurality of first magnetic disk devices, and the first file access controller manages a first file system configured in the first system, receives a file access request, and controls to access a file according to the file access request, and

a second system including a second file access controller and a second storage system, wherein the second storage system has a plurality of second magnetic disk devices and a second storage controller coupled to the plurality of second magnetic disk devices, and the second file access controller manages a second file system configured in the second system, receives a file access request, and controls to access a file according to the file access request,

wherein the first file access controller receives an open request for storing a file in the first system from a computer, the open request including information of a

policy set for the file by an application creating the file, stores the file in the first storage system, and manages the information of the policy set for the file,

wherein when the file stored in the first system satisfies a condition of the policy, the file is migrated from the first system to the second system, and wherein information indicating a migration destination of the file and information indicating the application creating the file and setting the policy remain stored in the first system.

42-43. (Canceled).

45. (Previously Presented) A system for storing a file according to claim 41,

wherein in the second system, another file name, which is different from an original file name of the file used in the first system, is used to identify the migrated file, and

wherein the another file name remains stored in the first system.

46. (Previously Presented) A system for storing a file according to claim 45,

wherein the information indicating the migration destination of the migrated file, the information indicating the application creating the file and setting the policy and the another file name are accessible by using the original file name.

47. (Previously Presented) A system for storing a file according to claim 46,

wherein after a migration of the file, when the first file access controller receives a file access request including the original file name of the migrated file, the first file access controller sends another file access request including the another file name of the file to the second system.

48. (Previously Presented) A system for storing a file according to claim 41, wherein information indicating a size of the file, access permission to the file, and creation date of the file further remain stored in the first system.

49. (Previously Presented) A system for storing a file according to claim 41, wherein the first file access controller and the second file access controller are configured to provide an access to a file according to Network File System or Common Internet File System protocol.

50. (Previously Presented) A system for storing a file according to claim 41, wherein when the file is migrated from the first system to the second system, the first file access controller reads the file from the first file system, and transmits a write request to the second system to store the file in the second file system, and the second file access controller writes the file according to the received write request.

51. (Previously Presented) A system for storing a file according to claim 50,

wherein the write request transmitted from the first file access controller to the second system is according to Network File System or Common Internet File System protocol.

52-53. (Canceled).

Appl. No. 10/775,886
Appeal Brief dated July 5, 2007
Reply to Office Action of January 4, 2007

H-1210

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

There are no related appeals or interferences. Therefore, there are no decisions rendered by a court or the Board in any corresponding proceeding.

In RE application of N. MATSUNAMI et al

Serial No.: 10/775,886

For: STORAGE DEVICE

Group Art Unit: 2188

Examiner: G.P. Hein

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450



Sir:

Transmitted herewith is an Amendment in the above-identified application.

- ☐ Small entity of this application under 37 CFR 1.9 and 1.27 has been established by a verified statement previously submitted.
- ☐ A verified statement to establish small entity status under 37 CFR 1.9 and 1.27 is enclosed.
- ☐ No additional fee is required.

The fee has been calculated as shown below:

	(Col. 1)		(Col. 2)		(Col. 3)
	Claims Remaining After Amendment		Highest No. Previously Paid For		Present Extra
Total	18	Minus	** 26	=	
Indep.	2	Minus	*** 5	=	
<input type="checkbox"/> First presentation of Multiple Dependent Claims					

SMALL ENTITY	
Rate	Additional Fee
X 25	\$
X 100	\$
X 180	\$
Total	\$

OR

OTHER THAN A SMALL ENTITY	
Rate	Additional Fee
X 50	\$
X 200	\$
X 360	\$
Total	\$

OR

- * If the entry in Col. 1 is less than the entry in Col. 2, write "0" in col. 3.
- ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, write '20' in this space.
- *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, write '3' in this space.
- The "Highest Number Previously Paid For" (Total or Independent) is the highest number found from the equivalent box in Col. 1 of a prior Amendment or the number of claims originally filed.

- ☐ Please charge my Deposit Account No. 50-1417 in the amount of \$_____.
- ☐ A Credit Card Payment Form in the amount of \$ 500.00 is attached for Appeal Brief.
- ☐ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayments to Deposit Account No. 50-1417.
- ☒ Any filing fees under 37 CFR 1.16 for the presentation of extra claims.
- ☒ Any patent application processing fees under 37 CFR 1.17.
- ☒ Any Extension of Time fees that are necessary, which are hereby requested if necessary.

Mattingly, Stanger, Malur & Brundidge, P.C.
1800 Diagonal Road, Suite 370
Alexandria, Virginia 22312
Tel: (703) 684-1120
Fax: (703) 684-1157

By:

[Signature]
Shrinath Malur, Reg. No. 34,663
Attorney for Applicant(s)

Date: July 5, 2007



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/775,886 Confirmation No. 1418
Applicant : N. MATSUNAMI et al
Filed : February 10, 2004
Title : STORAGE DEVICE
TC/AU : 2188
Examiner : K. Patel
Docket No. : H-1210
Customer No.: 24956

Commissioner for Patents
Mail Stop AF
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

Sir:

In response to the Final Rejection mailed January 4, 2007, and further to the Notice of Appeal filed May 4, 2007, please amend the above-identified application as follows. An Appeal Brief accompanies this Amendment.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks / Arguments begin on page 11 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1-31. (Canceled).

32. (Previously Presented) A method for migrating a file according to claim 39,
wherein in the second system, another file name, which is different from an
original file name of the file used in the first system, is used to identify the file, and
wherein the another file name used in the second system is further left in the
first system.

33. (Previously Presented) A method for migrating a file according to claim 32,
wherein the information indicating the migration destination of the file, the
information indicating the application creating the file and setting the policy, and the
another file name used in the second system are accessible by using the original file
name.

34. (Previously Presented) A method for migrating a file according to claim 33,
wherein after migrating the file, if the first file access controller receives a file
access request including the original file name, the first file access controller sends

the second file access controller another file access request including the another file name used for the file in the second system.

35. (Previously Presented) A method for migrating a file according to claim 39,
wherein information indicating a size of the file, access permission to the file,
and creation date of the migrated file are further left in the first system.

36. (Previously Presented) A method for migrating a file according to claim 39,
wherein the first file access controller and the second file access controller are
configured to provide an access to a file according to Network File System or
Common Internet File System protocol.

37. (Currently Amended) A method for migrating a file according to claim 39,
wherein in the step of migrating, the file is read from the first file system, a
write request to store the file in the second file system is transmitted to the second
system, and the second file access controller writes the file according to the write
request.

38. (Previously Presented) A method for migrating a file according to claim 37,
wherein the write request transmitted to the second system is according to Network
File System or Common Internet File System protocol.

39. (Previously Presented) A method for migrating a file between a first system and a second system,

wherein the first system includes a first file access controller, a first storage controller, and a plurality of first magnetic disk devices, and the first file access controller receives a file access request from a computer and controls to access a file according to the file access request, and

wherein the second system includes a second file access controller, a second storage controller, and a plurality of second magnetic disk devices, and the second file access controller receives a file access request and controls to access a file according to the file access request,

the method comprising steps of:

at the first system, receiving an open request from the computer for storing a file in the first system, the open request including information of a policy, which is set by an application creating the file;

storing the file in the first system;

migrating the file from the first system to the second system according to the policy; and

leaving information indicating a migration destination of the file and information indicating the application creating the file and setting the policy in the first system.

40. (Previously Presented) A method for migrating a file according to claim 39,

wherein in the plurality of first magnetic disk devices, a first logical unit is configured,

wherein in the step of migrating, data of the file is migrated from the first logical unit to the second system, and

wherein in the step of leaving, the information indicating the migration destination of the file and the information indicating the application creating the file and setting the policy are left in the first logical unit, from which data of the file is migrated to the second system.

41. (Previously Presented) A system for storing a file comprising:

a first system including a first file access controller and a first storage system, wherein the first storage system has a plurality of first magnetic disk devices and a first storage controller coupled to the plurality of first magnetic disk devices, and the first file access controller manages a first file system configured in the first system, receives a file access request, and controls to access a file according to the file access request, and

a second system including a second file access controller and a second storage system, wherein the second storage system has a plurality of second magnetic disk devices and a second storage controller coupled to the plurality of second magnetic disk devices, and the second file access controller manages a second file system configured in the second system, receives a file access request, and controls to access a file according to the file access request,

wherein the first file access controller receives an open request for storing a file in the first system from a computer, the open request including information of a policy set for the file by an application creating the file, stores the file in the first storage system, and manages the information of the policy set for the file,

wherein when the file stored in the first system satisfies a condition of the policy, the file is migrated from the first system to the second system, and

wherein information indicating a migration destination of the file and information indicating the application creating the file and setting the policy remain stored in the first system.

42-43. (Canceled).

44. (Previously Presented) A system for storing a file according to claim 41,

wherein under the control of the first storage controller, a first logical unit is configured in the plurality of first magnetic disk devices,

wherein under the control of the second storage controller, a second logical unit is configured in the plurality of second magnetic disk devices,

wherein data of the file is migrated from the first logical unit to the second logical unit, and

wherein the first storage system stores the information indicating the migration destination of the migrated file and the information indicating the application creating

the file and setting the policy in the first logical unit, from which the data of the file is migrated to the second logical unit.

45. (Previously Presented) A system for storing a file according to claim 41,
wherein in the second system, another file name, which is different from an original file name of the file used in the first system, is used to identify the migrated file, and
wherein the another file name remains stored in the first system.

46. (Currently Amended) A system for storing a file according to claim 45,
wherein the information indicating the migration destination of the migrated file, the information indicating the application creating the file and setting the policy and the another file name are accessible by using the original file name.

47. (Previously Presented) A system for storing a file according to claim 46,
wherein after a migration of the file, when the first file access controller receives a file access request including the original file name of the migrated file, the first file access controller sends another file access request including the another file name of the file to the second system.

48. (Previously Presented) A system for storing a file according to claim 41,

wherein information indicating a size of the file, access permission to the file, and creation date of the file further remain stored in the first system.

49. (Previously Presented) A system for storing a file according to claim 41,

wherein the first file access controller and the second file access controller are configured to provide an access to a file according to Network File System or Common Internet File System protocol.

50. (Previously Presented) A system for storing a file according to claim 41,

wherein when the file is migrated from the first system to the second system, the first file access controller reads the file from the first file system, and transmits a write request to the second system to store the file in the second file system, and the second file access controller writes the file according to the received write request.

51. (Previously Presented) A system for storing a file according to claim 50,

wherein the write request transmitted from the first file access controller to the second system is according to Network File System or Common Internet File System protocol.

52-53. (Canceled).

Appl. No. 10/775,886
Amendment dated July 5, 2007
Reply to Office Action dated January 4, 2007

H-1210


REMARKS / ARGUMENTS

Claims 32-41 and 44-51 remain pending in this application

Claims 37 and 46 have been amended to correct minor informalities. Entry of this Amendment is hereby requested.

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.

By 
Shrinath Malur
Reg. No. 34,663
(703) 684-1120